ABSTRACT OF THE DISCLOSURE

Methods and reagents for detecting high-risk human papilloma virus (HPV) DNA types in cells on a Pap smear that indicates the patient is at higher risk for cancer are described. The method uses full-length DNA probes to HPV types 16, 18, 31, 33, 35, and 51 in a particular proportion to hybridize to and detect the viral DNA *in situ*. The method differentiates high-risk from low-risk HPV DNA in cells that indicates the patient's risk for cancer. The *in situ* hybridization is detected by brightfield microscopy.